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<110> MATSUYAMA, KENJI
SHIRAI, TAKASHI
ETOH, TAKASHI

<120> ANTIBODIES FOR DETECTING MICROORGANISMS

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<140> 09/744,910

<141> 2001-05-17

<150> PCT/JP99/04122

<151> 1999-07-30

<150> JP 10/230204

<151> 1998-07-31

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<170> PatentIn Ver. 2.1

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<211> 369

<212> DNA

<213> Haemophilus influenzae

<220>

<221> CDS

<222> (1)..(369)

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gta act gaa atc gtt gaa tta atc gca gcg atg gaa gaa aaa ttc ggt 96
Val Thr Glu Ile Val Glu Leu Ile Ala Ala Met Glu Glu Lys Phe Gly
20 25 30

gtt tca gca gcg gca gca gta gca gca gct cca gca gca ggc ggt gca 144
Val Ser Ala Ala Ala Val Ala Ala Ala Pro Ala Ala Gly Gly Ala
35 40 45

gcg gca gca gaa gaa aaa act gaa ttc gac gtt gta ctt aaa tct gca 192
Ala Ala Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Lys Ser Ala
50 55 60

ggc gca aac aaa gta gca gta att aaa gca gta cgt ggt gca act ggt 240
Gly Ala Asn Lys Val Ala Val Ile Lys Ala Val Arg Gly Ala Thr Gly
65 70 75 80

tta ggc tta aaa gaa gct aaa gat tta gtt gaa tct gct cca gct aac 288
Leu Gly Leu Lys Glu Ala Lys Asp Leu Val Glu Ser Ala Pro Ala Asn
85 90 95

tta aaa gaa ggc gtt tct aaa gaa gaa gct gaa gca ctt aag aaa gaa 336
 Leu Lys Glu Gly Val Ser Lys Glu Glu Ala Glu Ala Leu Lys Lys Glu
 100 105 110

tta gaa gaa gcg ggt gca gaa gta gaa gtt aaa 369
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 115 120

<210> 2

<211> 123

<212> PRT

<213> Haemophilus influenzae

<400> 2

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Val Thr Glu Ile Val Glu Leu Ile Ala Ala Met Glu Glu Lys Phe Gly
 20 25 30

Val Ser Ala Ala Ala Val Ala Ala Ala Pro Ala Ala Gly Gly Ala
 35 40 45

Ala Ala Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Lys Ser Ala
 50 55 60

Gly Ala Asn Lys Val Ala Val Ile Lys Ala Val Arg Gly Ala Thr Gly
 65 70 75 80

Leu Gly Leu Lys Glu Ala Lys Asp Leu Val Glu Ser Ala Pro Ala Asn
 85 90 95

Leu Lys Glu Gly Val Ser Lys Glu Glu Ala Glu Ala Leu Lys Lys Glu
 100 105 110

Leu Glu Glu Ala Gly Ala Glu Val Glu Val Lys
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<210> 3

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<213> Helicobacter pylori

<220>

<221> CDS

<222> (1) .. (375)

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gtt tta gag ctt tct gaa ttg gtt aaa atg ttt gag gaa aaa ttt ggc 96
 Val Leu Glu Leu Ser Glu Leu Val Lys Met Phe Glu Glu Lys Phe Gly
 20 25 30

gtg agc gcg act cca acg gtc gta gcg ggt gcg gct gta gct ggc ggt	144
Val Ser Ala Thr Pro Thr Val Val Ala Gly Ala Ala Val Ala Gly Gly	
35 40 45	
gca gcg gct gag agc gaa gaa aaa acc gaa ttt aat gtg att ttg gcc	192
Ala Ala Ala Glu Ser Glu Glu Lys Thr Glu Phe Asn Val Ile Leu Ala	
50 55 60	
gat agc ggt gct gaa aaa att aag gtg att aaa gtg gtt cgt gaa atc	240
Asp Ser Gly Ala Glu Lys Ile Lys Val Ile Lys Val Val Arg Glu Ile	
65 70 75 80	
act gga ctt ggc ctg aaa gaa gct aaa gac gct acc gaa aaa acc cct	288
Thr Gly Leu Gly Leu Lys Glu Ala Lys Asp Ala Thr Glu Lys Thr Pro	
85 90 95	
cat gtg ctt aaa gag ggc gtg aat aaa gaa gaa gct gaa acc atc aag	336
His Val Leu Lys Glu Gly Val Asn Lys Glu Glu Ala Glu Thr Ile Lys	
100 105 110	
aag aaa ctt gaa gaa gta ggc gct aag gtt gaa gtc aag	375
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<210> 4
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Val Ser Ala Thr Pro Thr Val Val Ala Gly Ala Ala Val Ala Gly Gly	
35 40 45	
Ala Ala Ala Glu Ser Glu Glu Lys Thr Glu Phe Asn Val Ile Leu Ala	
50 55 60	
Asp Ser Gly Ala Glu Lys Ile Lys Val Ile Lys Val Val Arg Glu Ile	
65 70 75 80	
Thr Gly Leu Gly Leu Lys Glu Ala Lys Asp Ala Thr Glu Lys Thr Pro	
85 90 95	
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100 105 110	
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<210> 5
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<212> DNA

<213> Streptococcus pneumoniae

<220>

<221> CDS

<222> (1)..(366)

<400> 5

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atc ctt gaa ttg aac gac ctt gta aaa gct atc gaa gaa gaa ttt ggt 96
Ile Leu Glu Leu Asn Asp Leu Val Lys Ala Ile Glu Glu Glu Phe Gly
             20             25             30

gta act gca gct gct cct gta gct gtt gct gca gct gat gca gct gat 144
Val Thr Ala Ala Ala Pro Val Ala Val Ala Ala Ala Asp Ala Ala Asp
             35             40             45

gct ggt gct gct aaa gat tca ttc gac gtt gaa ttg aca tct gca ggc 192
Ala Gly Ala Ala Lys Asp Ser Phe Asp Val Glu Leu Thr Ser Ala Gly
             50             55             60

gac aaa aaa gtt ggc gtt atc aaa gtt gta cgt gaa atc act ggt ctt 240
Asp Lys Lys Val Gly Val Ile Lys Val Val Arg Glu Ile Thr Gly Leu
             65             70             75             80

ggt ctt aaa gaa gct aaa gaa ctt gtt gac ggt gca cca gca ctt gtt 288
Gly Leu Lys Glu Ala Lys Glu Leu Val Asp Gly Ala Pro Ala Leu Val
             85             90             95

aaa gaa ggc gtt gca act gca gaa gct gaa gaa atc aaa gct aaa ttg 336
Lys Glu Gly Val Ala Thr Ala Glu Ala Glu Glu Ile Lys Ala Lys Leu
             100             105             110

gaa gaa gct gga gct tca gtt act ctt aaa 366
Glu Glu Ala Gly Ala Ser Val Thr Leu Lys
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<210> 6

<211> 122

<212> PRT

<213> Streptococcus pneumoniae

<400> 6

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Ile Leu Glu Leu Asn Asp Leu Val Lys Ala Ile Glu Glu Glu Phe Gly
             20             25             30

Val Thr Ala Ala Ala Pro Val Ala Val Ala Ala Ala Asp Ala Ala Asp
             35             40             45

Ala Gly Ala Ala Lys Asp Ser Phe Asp Val Glu Leu Thr Ser Ala Gly
             50             55             60

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Asp Lys Lys Val Gly Val Ile Lys Val Val Arg Glu Ile Thr Gly Leu
65 70 75 80

Gly Leu Lys Glu Ala Lys Glu Leu Val Asp Gly Ala Pro Ala Leu Val
85 90 95

Lys Glu Gly Val Ala Thr Ala Glu Ala Glu Glu Ile Lys Ala Lys Leu
100 105 110

Glu Glu Ala Gly Ala Ser Val Thr Leu Lys
115 120

<210> 7

<211> 369

<212> DNA

<213> Neisseria gonorrhoeae

<220>

<221> CDS

<222> (1)..(369)

<400> 7

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1 5 10 15

gta atg gaa ttg aat gac ctg gtt aaa gct ttt gaa gaa aaa ttc ggt 96
Val Met Glu Leu Asn Asp Leu Val Lys Ala Phe Glu Glu Lys Phe Gly
20 25 30

gtt tct gct gct gct gtt gca gtt gca ggt cct gct ggt gcc ggt gct 144
Val Ser Ala Ala Ala Val Ala Val Ala Gly Pro Ala Gly Ala Gly Ala
35 40 45

gcc gat gct gaa gaa aaa acc gaa ttt gat gtc gtt ttg gct tct gcc 192
Ala Asp Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Ala Ser Ala
50 55 60

ggc gat caa aaa gtc ggc gtg att aaa gtt gtc cgt gca att act ggt 240
Gly Asp Gln Lys Val Gly Val Ile Lys Val Val Arg Ala Ile Thr Gly
65 70 75 80

ttg ggt ctg aaa gaa gct aaa gac atc gtt gac ggc gca cct aaa acc 288
Leu Gly Leu Lys Glu Ala Lys Asp Ile Val Asp Gly Ala Pro Lys Thr
85 90 95

att aaa gag ggt gtt tct aaa gct gaa gcc gaa gac atc caa aaa caa 336
Ile Lys Glu Gly Val Ser Lys Ala Glu Ala Glu Asp Ile Gln Lys Gln
100 105 110

ctg gaa gca gca ggc gct aaa gtc gaa atc aaa 369
Leu Glu Ala Ala Gly Ala Lys Val Glu Ile Lys
115 120

<210> 8
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 <212> PRT
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<400> 8
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 20 25 30
 Val Ser Ala Ala Ala Val Ala Val Ala Gly Pro Ala Gly Ala Gly Ala
 35 40 45
 Ala Asp Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Ala Ser Ala
 50 55 60
 Gly Asp Gln Lys Val Gly Val Ile Lys Val Val Arg Ala Ile Thr Gly
 65 70 75 80
 Leu Gly Leu Lys Glu Ala Lys Asp Ile Val Asp Gly Ala Pro Lys Thr
 85 90 95
 Ile Lys Glu Gly Val Ser Lys Ala Glu Ala Glu Asp Ile Gln Lys Gln
 100 105 110
 Leu Glu Ala Ala Gly Ala Lys Val Glu Ile Lys
 115 120

<210> 9
 <211> 369
 <212> DNA
 <213> *Neisseria meningitidis*

<220>
 <221> CDS
 <222> (1)..(369)

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 Val Met Glu Leu Asn Asp Leu Val Lys Ala Phe Glu Glu Lys Phe Gly
 20 25 30
 gtt tct gct gct gct gtt gca gtt gca ggt cct gct ggt gcc ggt gct 144
 Val Ser Ala Ala Ala Val Ala Val Ala Gly Pro Ala Gly Ala Gly Ala
 35 40 45
 gcc gat gct gaa gaa aaa acc gaa ttt gat gtc gtt ttg gct tct gcc 192
 Ala Asp Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Ala Ser Ala
 50 55 60

ggt gat caa aaa gtc ggc gtg att aaa gtt gtc cgt gca att acc ggt 240
 Gly Asp Gln Lys Val Gly Val Ile Lys Val Val Arg Ala Ile Thr Gly
 65 70 75 80

ttg ggt ctg aaa gaa gct aaa gac atc gtt gac ggt gca cct aaa acc 288
 Leu Gly Leu Lys Glu Ala Lys Asp Ile Val Asp Gly Ala Pro Lys Thr
 85 90 95

att aaa gag ggt gtt tct aaa gct gaa gcc gaa gac atc caa aaa caa 336
 Ile Lys Glu Gly Val Ser Lys Ala Glu Ala Glu Asp Ile Gln Lys Gln
 100 105 110

ctg gaa gaa gcc ggc gct aaa gtc gaa atc aaa 369
 Leu Glu Glu Ala Gly Ala Lys Val Glu Ile Lys
 115 120

<210> 10

<211> 123

<212> PRT

<213> Neisseria meningitidis

<400> 10

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 20 25 30

Val Ser Ala Ala Ala Val Ala Val Ala Gly Pro Ala Gly Ala Gly Ala
 35 40 45

Ala Asp Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Ala Ser Ala
 50 55 60

Gly Asp Gln Lys Val Gly Val Ile Lys Val Val Arg Ala Ile Thr Gly
 65 70 75 80

Leu Gly Leu Lys Glu Ala Lys Asp Ile Val Asp Gly Ala Pro Lys Thr
 85 90 95

Ile Lys Glu Gly Val Ser Lys Ala Glu Ala Glu Asp Ile Gln Lys Gln
 100 105 110

Leu Glu Glu Ala Gly Ala Lys Val Glu Ile Lys
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<210> 11

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Primer

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gtaaggatcc atgtcattaa ctaacgaaca a

<210> 12
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<400> 12
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 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 13
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<210> 14
 <211> 33
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 14
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<210> 15
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
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<400> 15
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<210> 16
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34

<210> 17
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<213> Haemophilus influenzae

<220>
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<400> 17
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1 5 10 15

gta act gaa atc gtt gaa tta atc gca gcg atg gaa gaa aaa ttc ggt 96
Val Thr Glu Ile Val Glu Leu Ile Ala Ala Met Glu Glu Lys Phe Gly
20 25 30

gtt tca gca gcg gca gca gta gca gca gct cca gca gca ggc ggt gca 144
Val Ser Ala Ala Ala Val Ala Ala Ala Pro Ala Ala Gly Gly Ala
35 40 45

gcg gca gca gaa gaa aaa act gaa ttc gac gtt gta ctt aaa tct gca 192
Ala Ala Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Lys Ser Ala
50 55 60

ggg gcg aac aaa gta gca gta att aaa gca gta cgt ggt gca act ggt 240
Gly Ala Asn Lys Val Ala Val Ile Lys Ala Val Arg Gly Ala Thr Gly
65 70 75 80

tta ggc tta aaa gaa gct aaa gat tta gtt gaa tct gct cca gct aac 288
Leu Gly Leu Lys Glu Ala Lys Asp Leu Val Glu Ser Ala Pro Ala Asn
85 90 95

tta aaa gaa ggc gtt tct aaa gaa gaa gct gaa gca ctt aag aaa gaa 336
Leu Lys Glu Gly Val Ser Lys Glu Glu Ala Glu Ala Leu Lys Lys Glu
100 105 110

tta gaa gaa gcg ggt gca gaa gta gaa gtt aaa 369
Leu Glu Glu Ala Gly Ala Glu Val Glu Val Lys
115 120

<210> 18
<211> 123
<212> PRT
<213> Haemophilus influenzae

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<210> 19
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<213> Streptococcus pneumoniae
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<220>
<221> CDS
<222> (1) .. (366)
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atc	ctt	gaa	ttg	aac	gac	ctt	gta	aaa	gct	atc	gaa	gaa	gaa	ttt	ggc	96
Ile	Leu	Glu	Leu	Asn	Asp	Leu	Val	Lys	Ala	Ile	Glu	Glu	Glu	Phe	Gly	
20				25				30								
gta	act	gca	gct	gct	cct	gta	gct	gtt	gct	gca	gct	gat	gca	gct	gat	144
Val	Thr	Ala	Ala	Ala	Pro	Val	Ala	Val	Ala	Ala	Ala	Asp	Ala	Ala	Asp	
35				40				45								
gct	ggc	gct	gct	aaa	gat	tca	ttc	gac	gtt	gaa	ttg	aca	tct	gca	ggc	192
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gac	aaa	aaa	gtt	ggc	gtt	atc	aaa	gtt	gta	cgt	gaa	atc	act	ggc	ctt	240
Asp	Lys	Lys	Val	Gly	Val	Ile	Lys	Val	Val	Arg	Glu	Ile	Thr	Gly	Leu	
65				70				75				80				
ggc	ctt	aaa	gaa	gct	aaa	gaa	ctt	gtt	gac	ggc	gca	cca	gca	ctt	gtt	288
Gly	Leu	Lys	Glu	Ala	Lys	Glu	Leu	Val	Asp	Gly	Ala	Pro	Ala	Leu	Val	
85				90				95								
aaa	gaa	ggc	gtt	gca	act	gca	gaa	gct	gaa	gaa	atc	aaa	gct	aaa	ttg	336
Lys	Glu	Gly	Val	Ala	Thr	Ala	Glu	Ala	Glu	Glu	Ile	Lys	Ala	Lys	Leu	
100				105				110								

gaa gaa gct gga gct tca gtt act ctt aaa
 Glu Glu Ala Gly Ala Ser Val Thr Leu Lys
 115 120

366

<210> 20
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 <213> Streptococcus pneumoniae

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 Val Thr Ala Ala Ala Pro Val Ala Val Ala Ala Ala Asp Ala Ala Asp
 35 40 45
 Ala Gly Ala Ala Lys Asp Ser Phe Asp Val Glu Leu Thr Ser Ala Gly
 50 55 60
 Asp Lys Lys Val Gly Val Ile Lys Val Val Arg Glu Ile Thr Gly Leu
 65 70 75 80
 Gly Leu Lys Glu Ala Lys Glu Leu Val Asp Gly Ala Pro Ala Leu Val
 85 90 95
 Lys Glu Gly Val Ala Thr Ala Glu Ala Glu Glu Ile Lys Ala Lys Leu
 100 105 110
 Glu Glu Ala Gly Ala Ser Val Thr Leu Lys
 115 120

<210> 21
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 <213> Neisseria gonorrhoeae

<220>
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<400> 21
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 Met Ala Ile Thr Lys Glu Asp Ile Leu Glu Ala Val Gly Ser Leu Thr
 1 5 10 15
 gta atg gaa ttg aat gac ctg gtt aaa gct ttt gaa gaa aaa ttc ggt 96
 Val Met Glu Leu Asn Asp Leu Val Lys Ala Phe Glu Glu Lys Phe Gly
 20 25 30
 gtt tct gct gct gct gtt gca gtt gca ggt cct gct ggt gcc ggt gct 144
 Val Ser Ala Ala Ala Val Ala Val Ala Gly Pro Ala Gly Ala Gly Ala
 35 40 45

gcc gat gct gaa gaa aaa acc gaa ttt gat gtc gtt ttg gct tct gcc 192
 Ala Asp Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Ala Ser Ala
 50 55 60

ggc gat caa aaa gtc ggc gtg att aaa gtt gtc cgt gca att act ggt 240
 Gly Asp Gln Lys Val Gly Val Ile Lys Val Val Arg Ala Ile Thr Gly
 65 70 75 80

ttg ggt ctg aaa gaa gct aaa gac atc gtt gac ggc gca cct aaa acc 288
 Leu Gly Leu Lys Glu Ala Lys Asp Ile Val Asp Gly Ala Pro Lys Thr
 85 90 95

att aaa gag ggt gtt tct aaa gct gaa gcc gaa gac atc caa aaa caa 336
 Ile Lys Glu Gly Val Ser Lys Ala Glu Ala Glu Asp Ile Gln Lys Gln
 100 105 110

ctg gaa gca gca ggc gct aaa gtc gaa atc aaa 369
 Leu Glu Ala Ala Gly Ala Lys Val Glu Ile Lys
 115 120

<210> 22
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 <213> Neisseria gonorrhoeae

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 20 25 30

Val Ser Ala Ala Ala Val Ala Val Ala Gly Pro Ala Gly Ala Gly Ala
 35 40 45

Ala Asp Ala Glu Glu Lys Thr Glu Phe Asp Val Val Leu Ala Ser Ala
 50 55 60

Gly Asp Gln Lys Val Gly Val Ile Lys Val Val Arg Ala Ile Thr Gly
 65 70 75 80

Leu Gly Leu Lys Glu Ala Lys Asp Ile Val Asp Gly Ala Pro Lys Thr
 85 90 95

Ile Lys Glu Gly Val Ser Lys Ala Glu Ala Glu Asp Ile Gln Lys Gln
 100 105 110

Leu Glu Ala Ala Gly Ala Lys Val Glu Ile Lys
 115 120